

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 4

Complete if Known

Application Number	10/524,956
Filing Date	December 15, 2005
First Named Inventor	Martin HENDRIX, et al.
Art Unit	1624
Examiner Name	Susanna More
Attorney Docket Number	01-2113

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
		2007/0161662 A1	07-12-2007	Martin HENDRIX, et al.	
		2006-0111372 A1	05-25-2006	Martin HENDRIX, et al.	
		2006/0106035 A1	05-18-2006	Martin HENDRIX, et al.	
		2006-0100222 A1	05-11-2006	Frank-Gerhard BOSS, et al.	
		2004/0266736 A1	12-30-2004	Frank WUNDER, et al.	
		2007/0105876 A1	05-10-2007	Martin HENDRIX, et al.	
		5,256,668	10-26-1993	Kuo-HOM, et al.	
		5,002,949	3-26-1991	Steven M. PESECKIS, et al.	
		3,732,225	05-08-1973	Hermann BREUER, et al.	
		3,165,520	01-12-1965	Paul SCHMIDT, et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
		CA 2 484 997 A1	04-22-2003	Bayer Cropscience AG		
		CA 2 417 631 A1	01-29-2003	Bayer Aktiengesellschaft		
		CA 2 438 890 A1	09-06-2002	Bayer Aktiengesellschaft		
		CA 2 283 211 A1	09-17-1998	Bayer Aktiengesellschaft		
		CH 396 926	01-31-1966	CIBA Aktiengesellschaft		
		DE 2 408 906	09-19-1974	Chemische Fabrik von Heyden GmbH		
		DE 101 56 249	05-28-2003	Bayer, AG		
		DE 1 147 234	04-18-1963	CIBA Aktiengesellschaft		
		EP 0 130 735 A1	01/09/1985	American Home Products		
		GB 937,726	09-25-1963	CIBA Limited		
		WO 02/06288 A1	01-24-2002	F. Hoffmann-La Roche AG		
		WO 2004/018474 A1	03-04-2004	Bayer Healthcare AG		
		WO 2004/026286 A3	04-01-2004	Bayer Healthcare AG		
		WO 02/068423 A1	09-06-2002	Bayer Aktiengesellschaft		
		WO 02/09713 A2	02-07-2002	Bayer Aktiengesellschaft		
		WO 03/093269 A2	11-13-2003	Bayer Cropscience AG		
		WO 03/041725 A2	05-22-2003	Bayer Aktiengesellschaft		
		WO 99/41253	08-19-1999	Tularik Inc.		
		WO 98/40384	09-17-1998	Bayer Aktiengesellschaft		
		WO 98/10765	03-19-1998	The Board of Trustees		
		WO 2004/026286 A2	04-01-2004	Bayer Healthcare AG		
		WO 2004/026876 A1	04-01-2004	Bayer Healthcare AG		
		WO 00/18758	04/06/2000	Mitsubishi Chemical Corp.		
		WO 02/098864 A1	12/12/2002	F. Hoffmann-La Roche AG		
		WO 95/10506 A1	04/20/1995	The Dupont Merck Pharmaceutical Company		
		WO 2004/026286 A1	04-01-2004	Bayer Healthcare AG		

Examiner
SignatureDate
Considered

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

* Applicant's unique citation designation number (optional). * Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet

2

of

4

Complete if Known

Application Number

10/524,956

Filing Date

December 15, 2005

First Named Inventor

Martin HENDRIX, et al.

Art Unit

1624

Examiner Name

Susanna More

Attorney Docket Number

01-2113

NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		F. Josef van der STAAY, et al., "The novel selective PDE9 inhibitor BAY 73-6691 improves learning and memory in rodents", NEUROPHARMACOLOGY, 55 (2008) pp. 908-916	
		Edwin J. WEEBER, et al., "Molecular Genetics of Human Cognition", MOLECULAR INVENTIONS, Vol. 2, Issue 6, October 2002, pps. 376-391	
		International Search Report for International Application No. PCT/EP2004/004455 mailed September 17, 2004, 8 pages	
		International Search Report for International Application No. PCT/EP2004/004412 mailed July 14, 2004, 6 pages	
		International Search Report for International Application No. PCT/EP03/08979 mailed November 25, 2003, 8 pages	
		International Search Report for International Application No. PCT/EP03/08923 mailed December 15, 2003, 6 pages	
		International Search Report for International Application No. PCT/EP2004/006477 mailed October 27, 2004, 8 pages	
		International Search Report for International Application No. PCT/EP2004/014872 mailed May 19, 2005, 10 pages	
		Scott H. SODERLING, et al., "Identification and Characterization of a Novel Family of Cyclic Nucleotide Phosphodiesterases", THE JOURNAL OF BIOLOGICAL CHEMISTRY, Vol. 273, No. 25, Issue of June 19, 1998, pgs. 15553-15558	
		Scott H. SODERLING, et al., "Regulation of cAMP and cGMP signaling: new phosphodiesterases and new functions", CURRENT OPINION IN CELL BIOLOGY, 2000, 12:174-179	
		Svetlana G. ANDREEVA, et al., "Expression of cGMP-Specific Phosphodiesterase 9A mRNA in the Rat Brain", THE JOURNAL OF NEUROSCIENCE, November 15, 2001, 21(22); pgs. 9068-9076	
		C. C. CHENG, et al., "Potential Purine Antagonist VII. Synthesis of 6-Alkylpyrazolo-[3,4-d]pyrimidines ^{12a} ", POTENTIAL PURINE ANTAGONISTS, VII, Vol. 23, February 1958, pgs. 191-200	
		Lindsay FAWCETT, et al., "Molecular cloning and characterization of a distance human phosphodiesterase gene family: PDE11A", PNAS, Vol. 97, No. 7, March 28, 2000, pgs. 3702-3707	
		Douglas A. FISHER, et al., "Isolation and Characterization of PDE9A, a Novel Human cGMP-specific Phosphodiesterase", THE JOURNAL OF BIOLOGICAL CHEMISTRY, Vol. 273, No. 25, Issue of June 19, 1998, pgs. 15559-15564	
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT***(Use as many sheets as necessary)*

Sheet

3

of

4

Complete if Known

Application Number

10/524,956

Filing Date

December 15, 2005

First Named Inventor

Martin HENDRIX, et al.

Art Unit

1624

Examiner Name

Susanna More

Attorney Docket Number

01-2113

NON PATENT LITERATURE DOCUMENTS

Douglas A. FISHER, et al., "Isolation and Characterization of PDE8A, a Novel Human cAMP-Specific Phosphodiesterase", BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, Vol. 246, April 15, 1998, pgs. 570-577

Sharron H. FRANCAIS, et al., "Characterization of a Novel cGMP Binding Protein from Rat Lung", THE JOURNAL OF BIOLOGICAL CHEMISTRY, Vol. 255, No. 2, Issue of January 25, 1980, pgs. 620-626

Kotomi FUJISHIGE, et al., "Cloning and Characterization of a Novel Human Phosphodiesterase That Hydrolyzes Both cAMP and cGMP (PDE10A)", THE JOURNAL OF BIOLOGICAL CHEMISTRY, Vol. 274, No. 26, Issue of June 25, 1999, pgs. 18438-18445

Heike GIELEN, et al., "A novel approach to amidines from esters", TETRAHEDRON LETTERS, 43, 2002, pgs. 419-421

Rudolf GOMPPER, et al., "Substituted dithiocarboxylic acids and ketene thioacetals", CARBOXYLIC ACID DERIVATIVES, Vol. 95, 1962, pgs. 2861-2870

Peter G. GILLESPIE, et al., "Characterization of a Bovine Cone Photoreceptor Phosphodiesterase Purified by Cyclic GMP-Sepharose Chromatography", THE JOURNAL OF BIOLOGICAL CHEMISTRY, "Vol. 263, No. 17, Issue of June 15, 1988, pgs. 8133-8141

Michel GUIPPONI, et al., "Identification and characterization of a novel cyclic nucleotide phosphodiesterase gene (PDE9A) that maps to 21q22.3: alternative splicing of mRNA transcripts, genomic structure and sequence", HUM GENET (1998) 103:386-392

J.M. HETMAN, et al., "Cloning and characterization of PDE7B, a cAMP-specific phosphodiesterase", PNAS, Vol. 97, No. 1, January 4, 2000, pgs. 472-476

Kate LOUGHNEY, et al., "Isolation and Characterization of cDNAs Corresponding to Two Human Calcium, Calmodulin-regulated, 3',5'-Cyclic Nucleotide Phosphodiesterases", THE JOURNAL OF BIOLOGICAL CHEMISTRY, Vol. 271, No. 2, Issue of January 12, 1996, pgs. 796-806

James E. HUETTNER, et al., "Primary Culture of Identified Neurons from the Visual Cortex of Postnatal Rats", THE JOURNAL OF NEUROSCIENCE, Vol. 6, No. 10, pgs. 3044-3060

Kate LOUGHNEY, et al., "Isolation and characterization of cDNAs encoding PDE5A, a human cGMP-binding, cGMP-specific 3',5'-cyclic nucleotide phosphodiesterase", GENE, 216 (1998), pgs. 139-147

Clair LUGNIER, "Cyclic nucleotide phosphodiesterase (PDE) superfamily: A new target for the development of specific therapeutic agents", PHARMACOLOGY & THERAPEUTICS, 109 (2006), pgs. 366-398

Timothy J. MARTINS, et al., "Purification and Characterization of a Cyclic GMP-stimulated Cyclic Nucleotide Phosphodiesterase from Bovine Tissues", THE JOURNAL OF BIOLOGICAL CHEMISTRY, Vol. 257, No. 4, Issue of February 25, 1981, pgs. 1973-1979

Akira MIYASHITA, et al. "Studies on Pyrazolo[3,4-d]Pyrimidine Derivatives", HETEROCYCLE, Vol. 31, No. 7, 1990, pgs. 1309-1314

Takashi MIKI, et al., "Characterization of the cDNA and Gene Encoding Human PDE3B, the cGIP1 Isoform of the Human Cyclic GMP-Inhibited Cyclic Nucleotide Phosphodiesterase Family", GENOMICS, 36, 1996, pgs. 476-485

Seiko MURASHIMA, et al., "Characterization of Particulate Cyclic Nucleotide Phosphodiesterases from Bovine Brain: Purification of a Distinct cGMP-Stimulated Isoenzyme", BIOCHEMISTRY, Vol. 29, 1990, pgs. 5285-5292

Rena OBERNOTLE, et al., "The cDNA of a human lymphocyte cyclic-AMP phosphodiesterase (PDE IV) reveals a multigene family", GENE, Vol. 29, 1993, pgs. 239-247

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT***(Use as many sheets as necessary)*

Sheet 4 of 4

Complete if Known

Application Number	10/524,956
Filing Date	December 15, 2005
First Named Inventor	Martin HENDRIX, et al.
Art Unit	1624
Examiner Name	Susanna More
Attorney Docket Number	01-2113

NON PATENT LITERATURE DOCUMENTS

	K. Hemender REDDY, et al., "Versatile synthesis of 6-alkyl/aryl-1H-pyrazolo[3,4-d]pyrimidin-4[5H]-ones", INDIAN JOURNAL OF CHEMISTRY, Vol. 31B, March 1992, pgs. 163-166	
	Magnus ROENN, et al., "Palladium (II)-Catalyzed Cyclization Using Molecular Oxygen as Reoxidant", TETRAHEDRON LETTERS, Vol. 36, No. 42, 1995, pgs. 7749-7752	
	Guy J. ROSMAN, et al., "Isolation and Characterization of human cDNAs encoding a cGMP-stimulated 3',5'-cyclic nucleotide phosphodiesterase", GENE, Vol. 191, 1997, pgs. 89-95	
	P. SCHMIDT, et al., "A new synthesis of pyrazolo [3,4-d] pyrimidines having coronary dilation properties", HELVETICA CHIMICA ACTA, Volume XLV, fascicule V (1962) No. 189, pgs. 1620-1627	
	Arne SCHOUSBOE, et al., "Role of CA ⁺⁺ and Other Second Messengers in Excitatory Amino Acid Receptor Mediated Neurodegeneration: Clinical Perspectives", CLINICAL NEUROSCIENCE, Vol. 4, 1997, pgs. 194-198	
	Joachim ULIRCH, "Crystallization", KIRK-OTHEMER ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY, August 16, 2002, 7 pages	
	Anthony R. WEST, "Solid Solutions", Department of Chemistry University of Aberdeen, March 3, 1988, 3 pages	
	Sudha R. VIPPAGUNTA, et al., "Crystalline Solids", ADVANCED DRUG DELIVERY REVIEWS, Vol. 48, 2001, pgs. 3-26	
	Ji-Ye WEI, et al., "Molecular and Pharmacological Analysis of Cyclic Nucleotide-Gated Channel Function in the Central Nervous System", PROGRESS IN NEUROBIOLOGY, Vol. 56, 1998, pgs. 37-64	
	Internet Article, "Dementia", Information from the Mental Health Foundation, March 19, 2008, 3 pages	
	Jehan BAGLI, et al., "Chemistry and Positive Inotropic Effect of Pelrinone and Related Derivatives. A Novel Class of 2-Methylpyrimidones and Inotropic Agents", J. MED. CHEM. 1988, vol. 31, Pgs. 812-823	

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.